

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method comprising:
positioning a distal portion of a delivery device at a location in a blood vessel the distal portion of the delivery device comprising a balloon and a delivery lumen coupled to the balloon;
imaging a thickness of at least a portion of a wall of the blood vessel at the location with an imaging assembly disposed in a second lumen of the delivery device;
identifying a treatment site beyond an external elastic lamina of the blood vessel based on the imaging;
inflating the balloon to cause the delivery lumen to move in a direction of the wall of the blood vessel;
advancing a needle beyond the delivery lumen of the delivery device a distance into the wall of the blood vessel to the treatment site beyond the external elastic lamina of the blood vessel; and
after advancing the needle, introducing a treatment agent in a sustained release composition through the needle.
2. (Canceled)
3. (Previously Presented) The method of claim 1, wherein imaging comprises ultrasonic imaging the portion of the blood vessel wall.
4. (Previously Presented) The method of claim 1, wherein imaging comprises optical imaging the portion of the blood vessel wall.
5. (Original) The method of claim 1, wherein the treatment site comprises a peri-adventitial space.
6. (Original) The method of claim 1, wherein the treatment site comprises a site radially outward from a peri-adventitial space.

7. (Currently Amended) The method of claim 1, wherein positioning the distal portion of the delivery device comprises positioning ~~a the distal opening of the delivery port for the needle lumen~~ at a position upstream from an obstruction.
8. (Previously Presented) The method of claim 1, wherein the blood vessel is part of a network and another blood vessel in the network other than the blood vessel wherein the delivery device is positioned comprises an obstruction.
9. (Previously Presented) The method of claim 1, wherein the sustained release composition comprises a carrier.
10. (Previously Presented) The method of claim 9, wherein the carrier comprises particles having an average diameter of 10 microns or less.
11. (Previously Presented) The method of claim 9, wherein the carrier includes an opsonin-inhibitor.
12. (Original) The method of claim 1, wherein the treatment agent comprises an agent that induces an inflammation-inducing response.
13. (Original) The method of claim 12, wherein the treatment agent comprises a thermally conductive material, and the method further comprises, following introducing the treatment agent, heating the treatment agent.
14. (Previously Presented) The method of claim 1, wherein the treatment agent comprises an agent directed to a specific binding site, and wherein the treatment agent is operable to stimulate angiogenesis.
- 15-31. (Cancelled)

32. (Previously Presented) The method of claim 1, wherein imaging the thickness comprises imaging the thickness with optical coherence tomography.

33-37. (Cancelled)

38. (Currently Amended) A method comprising:

positioning a distal portion of a delivery device at a location in a blood vessel the distal portion of the delivery device coupled to a balloon;

imaging a thickness of at least a portion of a wall of the blood vessel at the location with an imaging assembly disposed in a lumen of the delivery device;

directing the distal portion of the delivery device toward the portion of the wall of the blood vessel by inflating ~~a the balloon disposed around the lumen of the delivery device;~~

advancing a needle beyond the distal portion of the delivery device a distance into the wall of the blood vessel to a treatment site beyond an external elastic lamina of the blood vessel;
and

after advancing the needle, introducing a treatment agent through the needle,
wherein the treatment agent comprises an inflammation-inducing agent.

39. (Previously Presented) The method of claim 38, wherein the treatment agent comprises an agent directed to specific binding sites that is operable to stimulate angiogenesis.

40. (Previously Presented) The method of claim 38, wherein the treatment agent comprises carrier particles including the inflammation-inducing agent and having a sustained-release property within a physiological setting.

41. (Previously Presented) The method of claim 38, wherein the inflammation-inducing agent comprises at least one of a sol-gel particle, a silica particle, a glass including iron, chitin, fibrin, bacterial polysaccharides, vaccines, and particles of metal.

42. (Previously Presented) The method of claim 38, wherein the inflammation-inducing agent comprises at least one of a polycaprolactone, a polyhydroxybutyrate-valerate, a poly(oxy)ethylene, a polyurethane, and a silicone.

43. (Previously Presented) The method of claim 38, wherein the treatment agent comprises carrier particles including the inflammation-inducing agent, and wherein the carrier particles comprise at least one selected from poly (L-lactide), poly (D,L-lactide), poly (glycolide), poly (lactide-co-glycolide), polycaprolactone, polyanhydride, polydiacetonide, polyorthoester, polyamino acids, poly (trimethylene carbonate), and combinations thereof.

44. (Currently Amended) The method of claim 1, wherein the imaging comprises imaging through a ~~the~~ balloon disposed at the distal portion of the delivery device.

45. (Previously Presented) The method of claim 44, wherein the imaging through the balloon comprises imaging through a transparent material of the balloon.

46. (Previously Presented) The method of claim 1, wherein the treatment agent comprises a non-specific treatment agent operable to induce inflammation.

47. (Previously Presented) The method of claim 1, wherein the treatment agent comprises at least one selected from sol gel particles, calcium phosphate glass comprising iron, fibrin, gelatin, low molecular weight hyaluronic acid, chitin, bacterial polysaccharides, and metal particles.

48. (Previously Presented) The method of claim 1, further comprising deflecting the needle with a ribbon member deflector.

49. (Previously Presented) The method of claim 38, wherein the imaging comprises imaging through the balloon disposed at the distal portion of the delivery device.

50. (Previously Presented) The method of claim 49, wherein the imaging through the balloon comprises imaging through a transparent material of the balloon.

51. (Previously Presented) The method of claim 38, wherein the treatment agent comprises a non-specific treatment agent.
52. (Previously Presented) The method of claim 38, wherein the treatment agent comprises at least one selected from sol gel particles, calcium phosphate glass having iron, fibrin, gelatin, low molecular weight hyaluronic acid, chitin, bacterial polysaccharides, and metal particles.
53. (Previously Presented) The method of claim 38, further comprising deflecting the needle with a ribbon member deflector.
54. (Previously Presented) The method of claim 38, wherein the imaging comprises imaging with optical coherence tomography.
55. (Previously Presented) The method of claim 1, further comprising:
measuring the thickness of the portion of the wall of the blood vessel using the imaging assembly; and
identifying the treatment site based on the imaging and measuring.